

Elachistocleis Parker, 1927 (Amphibia, Anura) : proposed conservation

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The overlooked fact that DUMÉRIL & BIBRON (1841) were the first authors to validly designate a type-species, namely *Rana ovalis* Schneider, 1799, for the nominal genus *Engystoma* Fitzinger, 1826, is stressed. *Engystoma* is therefore the valid name for the microhylid genus now universally known as *Elachistocleis* Parker, 1927. The nomenclatural consequences of this fact are discussed, both as concerns genus-group and family-group names, and the ICZN is requested to use its plenary powers to designate the nominal species *Rana gibbosa* Linnaeus, 1758 as type-species of *Engystoma* in order to solve these problems.

Note. — This paper was submitted on 15 October 1982 to the Secretary of the International Commission on Zoological Nomenclature for publication in the *Bulletin of zoological Nomenclature*, but, despite repeated requests since then, has still not been published in this journal. The problems is raised have therefore remained unresolved, which is unfortunate, especially when one considers that, since then, several publications mentioning the names discussed below have appeared, including three check-lists (HARDING, 1983 ; DUBOIS, 1984 ; FROST, 1985) and two important monographs (DUELLMAN & TRUEB, 1986 ; LAURENT, 1986), and others are in progress. This paper is therefore published here as it was submitted, except that a few recent bibliographic references have been incorporated, as well as an additional discussion made necessary by the changes introduced in Art 32 and 35 of the new *Code*

(1) MERREM (1820 : 177) created the Amphibian genus *Breviceps* for the single nominal species *Rana gibbosa* Linnaeus, 1758, which is therefore the type-species of this genus by monotypy. This genus, which now includes more than ten species of African frogs, is now a member of the Brevicipitinae subfamily of the family Microhylidae.

(2) FITZINGER (1826 : 40) created the genus *Engystoma*. He mentioned the species *Rana gibbosa* Linnaeus, 1758 as a "Repräsentant" (an example) of his new genus, but did not clearly, formally, designate this species as type of his new genus. Beside this "Repräsentant" he also mentioned other nominal species as being part of the new genus. On page 40 he listed, beside *Rana gibbosa*, the names *Rana bufona*, *Bufo ventricosus*, *Bombinator ventricosus*, *Bombinator systoma* and *Pipa laevis* ; on page 65, in the list of specimens in the collection of the Wien Museum, he quoted the species *Rana ovalis*, *Rana gibbosa* and *Rana ventricosa* as members of the genus *Engystoma*. Therefore the following nominal species may be considered as the originally included species of the genus *Engystoma* Fitzinger, 1826, among which one may be chosen and designated as type-species of this genus : *Rana gibbosa* Linnaeus, 1758 ; *Rana bufona* Merrem, 1820 ; *Rana ventricosa* Linnaeus, 1758 ; *Rana systoma* Schneider, 1799 ; *Bufo laevis* Daudin, 1802 ; *Rana ovalis* Schneider, 1799.

(3) WAGLER (1830 : 205) proposed the replacement name *Systema* for *Engystoma* Fitzinger, 1826. He included in it only one nominal species, "*Breviceps gibbosus* Merr." (which he considered synonym of "*Rana Systema* Schn. Daud."), but did not formally designate it as type-species of this genus.

(4) TSCHUDI (1838 : 49, 86) used the generic name *Systema* Wagler, 1830, which he considered synonym of *Breviceps* Merrem, 1820 and of *Engystoma* Fitzinger, 1826, for the nominal species *Rana systema* Schneider, 1799, *Rana gibbosa* Linnaeus, 1758 and "*Breviceps leschenaulti* Bibron" (nomen nudum). He did not designate a type-species for the genus.

(5) DUMÉRIEL & BIBRON (1841 : 738-746) used the generic name *Engystoma* Fitzinger, 1826 for five nominal species, and were the first authors to make a designation of type-species valid in the light of the present *Code*, using the word "type": they chose the species *Rana ovalis* Schneider, 1799 (DUMÉRIEL & BIBRON, 1841 : 740). This species being one of the originally included species of the genus, this designation is valid.

(6) FITZINGER (1843 : 33) retained the replacement name *Systema* Wagler, 1830 for the genus he had created under the name *Engystoma* Fitzinger, 1826. For this genus he designated the species *Rana gibbosa* Linnaeus, 1758 as type-species. This designation is not valid, being posterior to that of DUMÉRIEL & BIBRON (1841) for *Engystoma* : *Systema* being a replacement name for *Engystoma*, both nominal genera have the same type-species, namely *Rana ovalis* Schneider, 1799.

(7) Following DUMÉRIEL & BIBRON (1841), various authors, including GÜNTHER (1859 : 51), BOULENGER (1882 : 160), COPE (1875 : 30 ; 1887 : 18 ; 1889 : 385), GADOW (1901 : 231) and others, used *Engystoma* Fitzinger, 1826 for *Rana ovalis* Schneider, 1799 and related species.

(8) STEJNEGER (1910) published a paper entitled : "The Amphibian generic name *Engystoma* untenable." He argued that *Engystoma* Fitzinger, 1826 was "based on Linne's *Rana gibbosa*" and was therefore a junior objective synonym of *Breviceps* Merrem, 1820. For *Rana ovalis* Schneider, 1799 and related species, he resurrected the generic name *Gastrophryne* Fitzinger, 1843 (type-species by original designation : *Engystoma rugosum* Dumériel & Bibron, 1841).

(9) PARKER (1927) proposed a generic revision of the frogs which had previously been referred to the genus *Gastrophryne*, for which he recognized six distinct genera. In particular, he created the genus *Elachistocleis* for the two nominal species *Rana ovalis* Schneider, 1799 (which PARKER designated as type-species of this new genus) and *Oxyrhynchus bicolor* Guérin-Méneville, 1838¹.

(10) Since PARKER's (1927) work, and except for a few exceptions (ANDERSSON, 1945 : 2 ; BARTH, 1958 : 82 ; and possibly a few others), zoologists have given up using the generic name *Engystoma* Fitzinger, 1826 and have used the generic name *Elachistocleis* Parker, 1927 for *Rana ovalis* Schneider, 1799 and *Oxyrhynchus bicolor* Guérin-Méneville, 1838 (the latter being considered synonym of the former by some authors). The following authors used the name *Elachistocleis* : MERTENS (1929 : 286 ; 1930 : 163 ; 1957 : 47) ; CRAWFORD (1931 : 38) ; DUNN (1931 : 416 ; 1949 : 2) ; PARKER (1933 : 3 ; 1934 : 120) ; FREIBERG (1942 : 220 ; 1951 :

1. Contrary to what is stated in FROST (1985 : 379), the author of this name is GUÉRIN-MÉNEVILLE (1838 : 17), not VALENTINUS (1838).

330); MYERS (1942 : 155); PENTZ (1943 : 182); SCHMIDT & INGER (1951 : 448), BOKERMANN (1952 : 279 ; 1966 : 34); TAYLOR (1952 : 594); ARÁMBURU (1953 : 273); CARVALHO (1954 : 3); GRIFFITHS (1954 : 42); COCHRAN (1954 : 362 ; 1961 : 62); CEI (1955 : 291 ; 1956 : 65 ; 1968 : 211 , 1980 : 62); BARTH (1958 : 82); GINÉS (1959 : 140); LEGRAND (1959 : 49); STEBBINS & HENDRICKSON (1959 : 538); GANS (1960 : 290); RIVERO (1961 : 177 , 1966 a : 304 ; 1966 b : 493); CEI & ROIG (1961 : 34); ACHENBACH (1962 : 265); SICK (1965 : 81); GALLARDO (1966 : 77 ; 1979 : 301); SAVAGE (1966 : 728); NELSON (1967 : 3719B ; 1968 : 170 ; 1972 : 897 ; 1973 : 163); KENNY (1969 : 12); MEDEM (1969 : 160); COCHRAN & GOIN (1970 : 77); HUTCHISON (1971 : 119); NELSON & GUTTMAN (1973 : 424); TRUEB (1973 : 71); WALKER (1973 : 6); BRAUN & BRAUN (1974 : 35 ; 1976 : 4); GORHAM (1974 : 119); LESCURE (1975 : 79 ; 1976 : 512); BOGART & NELSON (1976 : 199); EMERSON (1976 : 547); DOWLING & DUELLMAN (1978 : 40.2); DUELLMAN (1979 : 18); HOOGMOED (1979 : 273); LAURENT (1979 : 60 ; 1986 : 745); LYNCH (1979 : 193); RIVERO-BLANCO & DIXON (1979 : 290); TYLER (1979 : 87); HARDING (1983 : 47); DUBOIS (1984 : 15, 20-21, 40); FROST (1985 : 378); DUELLMAN & TRUEB (1986 : 552).

(11) In view of the fact that FITZINGER (1826) did not validly designate a type-species for his new genus *Engystoma*, and that DUMÉRIE & BIBRON (1841) validly designated *Rana ovalis* as type-species of this genus, *Engystoma* should be removed from the synonymy of *Breviceps*, where it erroneously stands since STEJNEGER's (1910) paper *Engystoma* Fitzinger, 1826 is in fact a senior objective synonym of *Elachistocleis* Parker, 1927 and should replace the latter as the valid name of the genus. Such a replacement would be inappropriate, since the name *Elachistocleis* has had a large use after its creation, and since the name *Engystoma* has been almost universally rejected since the creation of *Elachistocleis*. An action of the Commission is therefore needed in order to conserve the name *Elachistocleis*.

(12) Two different kinds of action could be considered :

(a) The first one would be the suppression, under the plenary powers, of the generic names *Engystoma* Fitzinger, 1826, *Systoma* Wagler, 1830 (a replacement name of the latter) and also *Engstoma* Peracca, 1904 (an unjustified emendation of *Engystoma*), and the placement of the name *Elachistocleis* Parker, 1927 on the Official List. As shown below in (16), it would also be advisable in this case, although not absolutely necessary, to suppress the family-group names Engystomidae Bonaparte, 1850 (and Engystomina Bonaparte, 1850), Systomata Lichtenstein, 1856 and Engistomatidae Methuen & Hewitt, 1913. Thus the suppression of either three or six names by the Commission would be necessary in this case.

(b) The second possibility would be setting aside by the Commission of all previous designations of type-series for *Engystoma* (and its replacement names), including DUMÉRIE & BIBRON's (1841) valid designation, and designation by the Commission, under the plenary powers, of *Rana gibbosa* Linnaeus, 1758 as type-species of this genus. This action would be equivalent to a validation of STEJNEGER's (1910) action considering FITZINGER's (1826) mention of *Rana gibbosa* as a "Representant" of his genus *Engystoma* as a valid type-species designation for this genus. In this case the name *Engystoma* and its replacement names would remain in the synonymy of *Breviceps* Merrem, 1820, where STEJNEGER (1910) had placed them, and the name *Elachistocleis* Parker, 1927 would remain valid. The family-group names mentioned above in (a) would disappear as junior synonyms, as discussed below in (15), so that no suppression of name would be needed. This second possibility of action is chosen here, because it is far more economic than the first one.

(13) Following STEJNEGER (1910), PARKER (1934) considered *Engystoma* Fitzinger, 1826 a junior synonym of *Breviceps* Merrem, 1820. For the subfamily accommodating this genus he strangely used the name *Brevicipitinae*, which he credited to COPE (1867), instead of two other older family-group names mentioned by him : *Systemata* Lichtenstein, 1856 and "*Engystomatidae* Gunther, 1858". Since then the name *Brevicipitinae* has remained in use as the valid name of the subfamily : see e.g. GOIN & GOIN (1962 : 234) , POYNTON (1964 : 69) ; WAGER (1965 : 40) ; VAN DIJK (1966 : 247) ; LYNCH (1973 : 117) ; SAVAGE (1973 : 354) ; BOGART & NELSON (1976 : 201) , DOWLING & DUELLMAN (1978 : 40.3, under the incorrect spelling *Brevicipinae*) , GOIN, GOIN & ZUG (1978 : 228) ; LAURENT (1979 : 60 ; 1980 a : 412 ; 1980 b : 86 , 1986 : 749) ; BOGART & TANDY (1981 : 59, under the incorrect spelling *Brevicipinae*) ; MORESCALCHI (1981 : 44) ; DUBOIS (1983 : 275 , 1984 : 40 ; 1985 : 75) ; FROST (1985 : 355) ; DUELLMAN & TRUEB (1986 : 552).

(14) As a matter of fact, all authors until 1979 have overlooked the family-group names created by BONAPARTE in a table (1850 ; reprinted in article form in 1852) in a work which was recently rediscovered (DUBOIS, 1981, 1982). BONAPARTE (1850) was the first author to propose family-group names based on the generic names *Breviceps* Merrem, 1820 and *Engystoma* Fitzinger, 1826 : he created the name *Engystomidae* for a family including three subfamilies, one of which he called *Engystomina* ; besides, he created the name *Brevicipitina* for a subfamily of his family *Bufonidae*.

(15) If the generic name *Engystoma* Fitzinger, 1826 remains, after action of the Commission, an objective synonym of *Breviceps* Merrem, 1820, the family-group names *Brevicipitinae* and *Engystomatinae* are also objective synonyms. Since both names were created in the same publication by BONAPARTE (1850), a first-reviser action is needed to decide upon their relative priority. I therefore took such an action (DUBOIS, 1983 : 275, 1984 : 40) and selected the name *Brevicipitinae* Bonaparte, 1850, in order to maintain the stability of the nomenclature of this subfamily (see (13) above). The name *Engystomatinae* Bonaparte, 1850 therefore automatically disappeared as a junior objective synonym of *Brevicipitinae* and its existence does not threaten the stability of nomenclature. The same applies to the family-group names *Systemata* Lichtenstein, 1856 and *Engistomatidae* Methuen & Hewitt, 1913, names which are based upon generic names which are substitute names for *Engystoma* Fitzinger, 1826.

(16) If the Commission refused to follow the suggestion made above, and if *Engystoma* Fitzinger, 1826 remained an objective senior synonym of *Elachistocleis* Parker, 1927, the name *Engystomatinae* Bonaparte, 1850 would become a junior subjective synonym of *Microhyinae* Gunther, 1858 (1843), the name traditionally used for this subfamily. Thus its existence would not cause a threat to the stability of nomenclature. However, if new family-groups were to be created (for example if the subfamily *Microhyinae* was to be subdivided into several tribes), the name *Engystomatinae* would remain available for the group including *Rana oralis* Schneider, 1799. If, on the other hand, the name *Engystoma* Fitzinger, 1826 had been suppressed by the Commission, it would be unadvisable to use the name *Engystomatinae* for the family-group including the genus *Elachistocleis* Parker, 1927. To avoid such possible difficulties, it would therefore be justified to ask the Commission to suppress, beside the generic names *Engystoma*, *Systemata* and *Engistoma*, the family-group names *Engystomidae* Bonaparte, 1850 (and *Engystomina* Bonaparte, 1850, *Systemata* Lichtenstein, 1856 and *Engistomatidae* Methuen & Hewitt, 1913). This would make the solution discussed above in (12a) even heavier, and this reason strengthens the case for choosing the solution (12b).

(17) A few words must be said about the familial name Microhylidae. The family-group name Microhylinae was coined by NOBLE (1931 : 537) for a subfamily including the genus *Microhyla* Tschudi, 1838 and related genera. For the family he used the name Brevicipitidae. PARKER (1934 : 15-16) remarked that the two oldest family-group names available for this family were Hylaedactyli Fitzinger, 1843 and Gastrophrynae Fitzinger, 1843. PARKER (1934 : 16) took a first-reviser action concerning these two names, by selecting the latter against the former. However, both these family-group names were based on generic names considered by PARKER (1934) as junior synonyms of valid names. *Gastrophryne* Fitzinger, 1843 was placed by him in the synonymy of *Microhyla* Tschudi, 1838, and consequently PARKER (1934 : 16) replaced the name *Gastrophrynae* Fitzinger, 1843 by the name *Microhylidae* as the valid name of the family. He was followed by all authors until now, and the name *Microhylidae* is universally used by present-days batrachologists : see e.g., among many others, BOURRET (1942 : 479) ; LIU (1950 : 231) ; TAYLOR (1952 : 594 ; 1962 : 539) ; COCHRAN (1954 : 1) ; GRIFFITHS (1954 : 37 ; 1959 : 473 ; 1963 : 273) ; INGER (1954 : 414 ; 1966 : 116 ; 1967 : 370) ; REIG (1958 : 115) ; RIVERO (1961 : 177) ; GOIN & GOIN (1962 : 197) ; POYNTON (1964 : 69) ; OKADA (1966 : 41) ; COCHRAN & GOIN (1970 : 74) ; ESTES & REIG (1973 : 37) ; LYNCH (1973 : 135 ; 1979 : 192) ; SAVAGE (1973 : 352) ; STARRETT (1973 : 251) ; TRUEB (1973 : 71) ; DUBOIS (1974 : 352 ; 1983 : 274 ; 1984 : 38 ; 1985 : 75) ; GORHAM (1974 : 115) ; DUELLMAN (1975 : 5 ; 1979 : 3) ; DOWLING & DUELLMAN (1978 : 40.1) ; GOIN, GOIN & ZUG (1978 : 69) ; GUIBÉ (1978 : 92) ; HOOGMOED (1979 : 251) ; LAURENT (1979 : 56 ; 1980 a : 410 ; 1980 b : 85 ; 1986 : 736) ; TYLER (1979 : 79) ; CEI (1980 : 152) ; HARDING (1983 : 46) ; FROST (1985 : 349) ; DUELLMAN & TRUEB (1986 : 549). The name *Gastrophrynae* having been changed into *Microhylidae* on the basis of a subjective synonymy of the generic names *Gastrophryne* and *Microhyla*, and the name *Microhylidae* having won general acceptance since then, the latter name must be maintained as the valid name of the family by virtue of Art. 40(a). This name takes the date of the rejected name (Art. 40b), and should logically be quoted as *Microhylidae* Noble, 1931 (1843), similarly, the nominotypical subfamily should logically be known as *Microhylinae* Noble, 1931 (1843) : see DUBOIS, 1983, 1984). However, as a result of the recent wordings of Articles 32 and 35 of the *Code* (ANONYMOUS, 1985), which I criticized in detail elsewhere (DUBOIS, 1985), the names *Microhylidae* and *Microhylinae* must now be credited to GÜNTHER (1858), who had created the taxa names *Microhyla* and *Microhylidae*, both based on the genus-group name *Microhyla* Dumeril & Bignon, 1841, an unjustified emendation of *Microhyla* Tschudi, 1838 : for more details see DUBOIS, 1984, 1985, 1987).

(18) To conclude, the International Commission on Zoological Nomenclature is requested :

(1) to use its plenary powers to set aside all previous type species designations for the genus *Engystoma* Fitzinger, 1826, and to designate the nominal species *Rana gibbosa* Linnaeus, 1758 as type-species of this genus ;

(2) to place the following names on the Official List of Generic Names in Zoology :

(a) *Breviceps* Merrem, 1820, type-species, by monotypy, *Rana gibbosa* Linnaeus, 1758 ;

(b) *Microhyla* Tschudi, 1838, type-species, by monotypy, *Microhyla achatina* Tschudi, 1838 ;



(c) *Elachistocleis* Parker, 1927, type-species, by original designation, *Rana ovalis* Schneider, 1799 ;

(3) to place the following names on the Official List of Specific Names in Zoology :

(a) *gibbosa* Linnaeus, 1758, as published in the binomen *Rana gibbosa* (type-species of *Breviceps* Merrem, 1820) ;

(b) *achatina* Tschudi, 1838, as published in the binomen *Microhyla achatina* (type-species of *Microhyla* Tschudi, 1838) ;

(c) *ovalis* Schneider, 1799, as published in the binomen *Rana ovalis* (type-species of *Elachistocleis* Parker, 1927) ;

(4) to place the following names on the Official List of Family-Group Names in Zoology :

(a) Microhylidae Gunther, 1858 (1843), type-genus *Microhyla* Tschudi, 1838 ;

(b) Brevicipitina Bonaparte, 1850, type-genus *Breviceps* Merrem, 1820.

RÉSUMÉ

DUMÉRIE & BIBRON (1841) s'avèrent être les premiers auteurs à avoir effectué une désignation valide d'espèce-type, en l'occurrence *Rana ovalis* Schneider, 1799, pour le genre nominal *Engystoma* Fitzinger, 1826. Il en résulte que le nom *Engystoma* est en fait le nom valide pour le genre de Microhylidae actuellement connu sous le nom *Elachistocleis* Parker, 1927. Les conséquences nomenclaturales de ce fait sont discutées, et il est demandé à l'ICZN de faire usage de ses pleins pouvoirs pour désigner l'espèce nominale *Rana gibbosa* Linné, 1758 comme espèce-type du genre *Engystoma*, de manière à résoudre ces problèmes.

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